*Y-12 nonproliferation mission expands; Security clearance process goes online; Y-12 is a national leader in nuclear packaging design*

# National Security and Threat Reduction

## Y-12 ACCEPTS EXPANDED NONPROLIFERATION MISSION

A major and growing NNSA mission is Defense Nuclear Nonproliferation. The DNN work is diverse and international and requires that Y-12 have an external focus to better understand how its expertise can be best used.

Y-12 has made significant contributions to DNN initiatives that play a critical role in national and international security and recently captured the headlines with the removal of sensitive materials and equipment from Libya and other locations. Over the last few years, Y-12 has had business arrangements and supported DNN missions in more than 25 countries.

In addition to material removal and safeguards and security activities, Y-12 has entered into low-enriched uranium supply contracts during the last two years for research reactors in countries such as Argentina, Australia, Belgium, Canada, France, Japan, Romania, South Korea and The Netherlands. These reactors provide the research for nuclear technologies to be applied to the next generation of commercial power reactors.

Many of these reactors also produce critical medical isotopes needed for diagnostics and the treatment of cancer.

Besides obvious benefits, Y-12's contracts have strategic importance for NNSA's DNN efforts to convert the world's research reactors from highly enriched uranium fuel to LEU fuel and the downblending of HEU to LEU fuel. Second, the uranium supply provides revenues to the U.S. Treasury. Third, personal relationships and contracts with foreign reactor personnel are an excellent avenue for international cooperation and support the Global Threat Reduction Initiative announced by Energy Secretary Abraham in May 2004.


Y-12 provides fuel to research reactors around the world, downblending weapon-grade material to make LEU fuel and supporting NNSA's world-wide nonproliferation efforts.

## TECHNICAL COMPUTING e-QIPS SECURITY CLEARANCES

Y-12's Technical Computing organization is taking the paper out of the security clearance application process and simplifying the time-consuming, arduous task by making it electronic and more user friendly.

Electronic Questionnaires for Investigations Processing is a Web-based system Y-12 developed for the U.S. Office of Personnel Management. In the past, the Questionnaire for National Security Position form (better known as a QNSP) had to be filled out by hand, but the new system accommodates the secure collection and storage of user-entered data and documents scanned during the investigative process. Applicants simply complete the form using a standard Web interface, which also accommodates users with disabilities.

e-QIP provides immediate validation of information to reduce processing time and provides an online review and approval mechanism for governing agencies' users.

In addition to saving time, the system has reduced by 15% the number of forms rejected.

Duplication of effort is reduced because electronic files can be stored and updated. Over 10 years, this and other e-clearance systems could provide a $260 million savings. e-QIP is already proving its worth as it has been phased into use by OPM. About a dozen federal agencies—including NASA, the National Science Foundation and the U.S. Naval Academy—are using e-QIP.

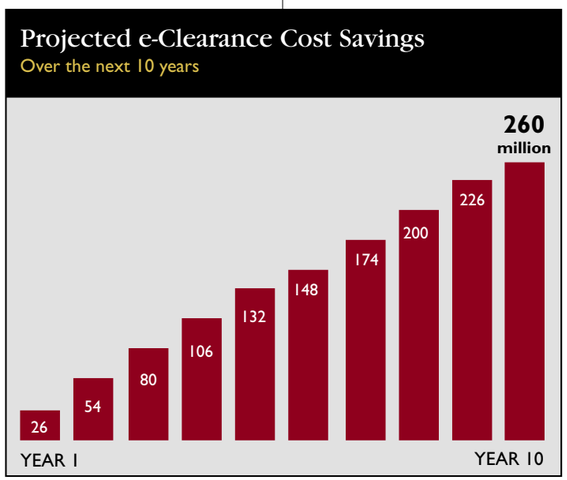
## PACKAGING ENGINEERING IS LEADER IN DESIGN

Beyond the catchy name, what's there to know about the ES-3100 shipping container? It was designed and developed by Y-12's packaging engineering group as a state-of-the-art, Type B, fissile material shipping container. Originally envisioned to be DOE's replacement for the U.S. Department of Transportation Specification 6M container, the ES-3100's capabilities have far exceeded those of the 6M.

The new ES-3100 is a general-purpose fissile material container that accommodates HEU and other special nuclear materials in bulk quantities and in many forms. The package uses a patented insulation technology that has been successfully applied in other licensed packages. The containment vessel itself has safe geometry and is ideal for many content configurations.

The package has met all International Atomic Energy Agency and U.S *Code of Federal Regulations* requirements and has passed all hypothetical accident condition tests, including a sequential 30-foot-drop test and crush tests.


The new, more versatile ES-3100 container meets all DOT and Nuclear Regulatory Commission regulations for transporting fissile material.




Implementing e-clearance systems could save federal agencies $260 million in the next decade.

## FACES OF Y-12

*Jim Mulkey*
*Manager, Defense Nuclear Nonproliferation*

Y-12's next generation will have grown up with change—at work, at home and at school—and will bring to Y-12 the skills needed to support improvements in productivity, service and quality.